

**REMARKS**

Claims 1-36 are pending in this application. By this Amendment, 1-5, 11-14, 16, 18, 22, 26 and 31-35 are amended; and Figs. 8-10 are corrected. No new matter is added.

**I. The Drawings Satisfy all Formal Requirements**

The Office Action objects to Figs. 8-10 asserting that "f1" should be replaced with --Fi--. In response, Figs. 8-10 are corrected to obviate the objection. Withdrawal of the objection to the drawings is respectfully requested.

**II. The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1-15, 17-20 and 31-33 under 35 U.S.C. §102(b) over U.S. Patent No. 6,057,809 to Singhal et al.; claim 6 under 35 U.S.C. 103(a) over Singhal et al.; claims 16, 22-24, 26-28, 30 and 34-36 under 35 U.S.C. §103(a) over Singhal et al. in view of U.S. Patent No. 5,712,652 to Sato et al.; claim 21 under 35 U.S.C. §103(a) over Singhal in view of U.S. Patent No. 6,037,920 to Mizutome et al.; and claims 25 and 29 under 35 U.S.C. §103(a) over Singhal et al. in view of Sato et al., and further in view of Mizutome et al. These rejections are respectfully traversed.

Singhal et al. does not teach, disclose or suggest "a drive device that sets as control units a plurality of subfields into which a field period is divided on a time base for driving a pixel, ... and determines, on the basis of a multi-bit display data, the subfields for which to apply the ON voltage and the subfields for which to apply the OFF voltage, thereby to express the gradation per pixel," as recited in claim 1, and as similarly recited in claims 3, 11, 12, 14 and 16; and "a control device that controls the data line drive circuit on the basis of the multi-bit gradation data so that pulse signals for bringing the respective pixels into the transmissive states may be concentrated in a first half of each field for displaying a gradation per pixel," as recited in claim 26, and as similarly recited in claims 18, 22, 31, 34 and 35.

Instead, Singhal et al. discloses "It converts the stream of pixels from a multi-bit-per-color cathode-ray tube (CRT) format to a single-bit-per-color flat-panel format" (col. 3, lines 53-60); and "some rows are left on for a longer period of time than other rows. When variable-row times are combined with frame-grate-cycling, pixels are left on for differing periods of times in different frames" (col. 5, lines 27-31). Thus, Singhal et al. does not teach a multi-bit gradation data for displaying a gradation per pixel, as claimed.

Sato et al. and Mizutome et al. do not make up for the deficiencies of Singhal et al. Instead, Sato et al. discloses a conventional liquid crystal display device of low power consumption; and Mizutome et al. discloses a drive signal generation means controlled to generate a drive signal having a pulse width which varies depending on the temperature of the liquid crystal device (Abstract). Even if combined, the applied references do not combine to result in the above-recited claim features.


For at least these reasons, it is respectfully submitted that claims 1, 3, 11, 12, 14, 16, 18, 22, 26, 31, 34 and 35 are patentable over the applied references. The dependent claims are likewise patentable over the applied references for at least the reasons discussed, as well as for the additional features they recite. Applicant respectfully requests that the rejections under 35 U.S.C. §102(b) and §103(a) be withdrawn.

### **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-36 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

  
James A. Oliff  
Registration No. 27,075

Richard J. Kim  
Registration No. 48,360

JAO:RJK/mdw

Attachment:  
Amended Drawings

Date: July 6, 2004

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
--